REMARKS

This responds to the Office Action dated on November 29, 2005, and is being filed within the two-month shortened response period.

Claims 1 – 6, 8-10, 25-30, and 36 are amended. Applicant hereby cancels non-elected withdrawn claims 12-24, 32-35, and 43-61, without prejudice or disclaimer, reserving the right to later re-introduce such claims in this patent application or in one or more subsequent patent applications claiming the benefit of priority of this patent application. No claims are added. As a result, claims 1-11, 25-31, 36-42 are presently pending in this patent application.

§102 Rejection of the Claims

1.   Claims 1-7, 11, 25-28, and 31 were rejected under 35 U.S.C. § 102(e) for anticipation by Agrawal et al. (U.S. Patent No. 6,233,575B1). Applicant respectfully traverses.

Concerning claims 1-7, 11:

First, Applicant has amended claim 1 to clarify that the claimed "user" is an "end-user" of a computerized content provider system, and not a "knowledge engineer" or "system administrator" that would use the system only to build, train, improve, or maintain the system for the benefit of such an end-user.

Agrawal '575, viewed as a whole, is clearly directed toward "a system, process, and article of manufacture for organizing a large text database into a hierarchy of topics and for maintaining this organization as documents are added and deleted and as the topic hierarchy changes." (*See* Agrawal '575 at Abstract.) The Abstract of Agrawal '575 is instructive:

> Given sample documents belonging to various nodes in the topic hierarchy, the tokens (terms, phrases, dates, or other usable feature in the document) that are most useful at each internal decision node for the purpose of routing new documents to the children of that node are automatically detected. Using feature terms, statistical models are constructed for each topic node. The models are used in an estimation technique to assign topic paths to new unlabeled documents. The hierarchical technique, in which feature terms can be very different at different nodes, leads to an efficient context-sensitive classification technique. The hierarchical technique can handle millions of documents and tens of thousands of topics. A resulting taxonomy and path enhanced retrieval system (TAPER) is used to generate context-dependent document indexing terms. The topic paths are used,

in addition to keywords, for better focused searching and browsing of the text database.

(Agrawal '574 at Abstract.) Agrawal '575 is directed toward training a content provider system to create a taxonomy and path enhanced retrieval system to generate context-dependent document indexing terms. A user of the Agrawal '575 system would be a knowledge engineer or system administrator that would use the system only to build, train, improve, or maintain the system for the benefit of such an end-user.

By contrast, the present patent application—both specification and claims—distinguishes between an end-user of a content provider system and a "knowledge engineer". Providing an example of such an end-user, the present patent application states:

> For example, in an automated customer relationship management (CRM) system, the user is typically a customer of a product or service who has a specific question about a problem or other aspect of that product or service. Based on a query or other request from the user, the CRM system must find the appropriate technical instructions or other documentation to solve the user's problem.

(Application at page 1, lines 28-32.) By contrast, the present application refers to a user of the Agrawal '575 system (e.g., who builds, trains, improves, or maintains the system for the benefit of an end-user) as a "knowledge engineer" or "operator". (*See, e.g.,* Application at page 12, lines 21-23; page 13, lines 1 – page 15, line 29; page 46, line 1 – page 74, line 31.) Indeed, the present patent application includes distinct sections on how an end-user would use an automated content provider system (see "User Interaction Session Example 1," Application at page 30, line 3 – page 31, line 17, and "User Interaction Session Example 2," Application at page 31, line 18 – page 45, line 29) as well as on how a knowledge engineer would build such a system (*see* Application at page 46, line 1 – page 74, line 31.) Applicant respectfully submits that its claims, directed toward an end-user, are patentably distinct and quite different from the disclosure of Agrawal '575, which is directed toward a knowledge engineer, system administrator, or operator who builds, trains, improves, or maintains the system for the benefit of an end-user.

Second, Applicant cannot find in the cited portions of Agrawal '575 any disclosure of using a knowledge map in which each concept includes at least one concept feature that is also in at least one document in a plurality of documents that are tagged to one or more of the concepts

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE
Serial Number: 10/047,446
Filing Date: January 14, 2002
Title: EFFICIENT AND COST-EFFECTIVE CONTENT PROVIDER FOR CUSTOMER RELATIONSHIP MANAGEMENT (CRM)
          OR OTHER APPLICATIONS

Page 10
Dkt: 1546.015US1

in the knowledge map, as recited in claim 1. The Office Action cites the following portions of

Agrawal '575 in asserting such correspondence between Agrawal '575 and claim 1:

> Feature selection is also useful in any setting in which salient distinctions are sought between two or more sets of documents. Consider the scenario in which a set of documents (e.g., a keyword query result) has been clustered into subsets, and a user wishes to annotate the clusters using salient keywords. The clusters can be regarded as classes and feature selection can be used to find these keywords. . . .

> Thus, with reference to the hierarchy represented in the FIG. 2, statistics are calculated for the "science" node 28 based on the terms in all of the documents d from the collection set 42 that are classified in classes represented by nodes (terminal and intermediate) below the "science" node 28, including the nodes labeled "biology," "chemistry," "electronics," and all children nodes of these nodes. Similarly, statistics are calculated for the terms in all of the documents (from the collection set 42) under each of those intermediate nodes and each of the other intermediate nodes in the hierarchy.

(Agrawal '575 at col. 7, lines 59-65 and col. 10, line 59 – col. 11, line 2.) Applicant cannot find

any disclosure in these portions of Agrawal '575 that were relied upon by the Office Action of

each and every concept node having at least one document tagged to that concept node. (See,

e.g., Application at page 19, lines 30-31.) Moreover, these cited portions of Agrawal '575 again

emphasize that it is directed not toward an end-user, but instead toward a knowledge engineer,

system administrator, or operator who builds, trains, improves, or maintains the system for the

benefit of an end-user—an end-user would not have any interest in "[annotating] clusters [of

documents] using salient keywords", as discussed in the cited portions of Agrawal '575; such

work would only be of interest to a knowledge engineer, system administrator, etc.

In sum, because all elements of claim 1, and its dependent claims 2-7 and 11, are

apparently not disclosed in Agrawal '575, Applicant respectfully submits that there is presently

no *prima facie* case of anticipation of such claims by Agrawal '575. Accordingly, Applicant

respectfully requests withdrawal of this basis of rejection of these claims.

For brevity, Applicant defers (but reserves the right to present) further remarks, such as

concerning any dependent claims, which are believed separately patentable. Also, Applicant

respectfully submits that the present minor amendment to claim 1 should not raise new issues or

require further search and examination.

Concerning claims 25-28 and 31:

First, Applicant cannot find in the cited portions of Agrawal '575 any disclosure of interacting with an end-user, as presently recited or incorporated in these claims. Instead, Agrawal '575 is apparently directed toward a knowledge engineer, system administrator, or operator who builds, trains, improves, or maintains the system for the benefit of an end-user, as discussed above with respect to the rejection of claims 1-7, 11.

Second, Applicant cannot find in the cited portions of Agrawal '575 any disclosure of presenting to the user, if the at least one feature in the user query language substantially matches the at least one concept feature associated with a concept, at least one indication of the at least one matched concept and "at least one related concept" to the at least one matched concept, "the indication of the at least one related concept presented as corresponding to the at least one matched concept to which it is related", as recited or incorporated in these claims. Instead, the Office Action appears to have analyzed independent claim 25 together with previously-presented independent claim 1, without considering the differences between these claims, and without articulating its basis for rejecting the differently worded claim 25. However, with regard to claims 3 and 27, the Office Action states:

> As to claims 3, and 27, Agrawal et al. '575 discloses further including:
>   presenting to the user at least one indication of at least one related concept
> to the at least one matched concept (See Agrawal et al. '575 column 10, lines 59-
> 67) . . .

(Office Action at page 4.) However, the cited portion of Agrawal '575 merely states:

> Thus, with reference to the hierarchy represented in the FIG. 2, statistics are
> calculated for the "science" node 28, based on the terms in all of the documents d
> from the collection set 42 that are classified in classes represented by nodes
> (terminal and intermediate) below the "science" node 28, including the nodes
> labeled "biology," "chemistry," "electronics," and all children nodes of these
> nodes. Similarly statistics are calculated for the terms in all of the documents
> (from the collection set 42) under each of those intermediate nodes and each of
> the other intermediate nodes in the hierarchy.

(Agrawal '575 at col. 10, line 59 – col. 11, line 2.) Applicant respectfully submits that nothing in this cited portion of Agrawal '575 appears to disclose or even infer presenting to the user, if the

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE   Page 12
Serial Number: 10/047,446   Dkt: 1546.015US1
Filing Date: January 14, 2002
Title: EFFICIENT AND COST-EFFECTIVE CONTENT PROVIDER FOR CUSTOMER RELATIONSHIP MANAGEMENT (CRM)
            OR OTHER APPLICATIONS

at least one feature in the user query language substantially matches the at least one concept feature associated with a concept, at least one indication of the at least one matched concept and "at least one related concept" to the at least one matched concept, "the indication of the at least one related concept presented as corresponding to the at least one matched concept to which it is related", as recited or incorporated in these claims. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of independent claim 25, and its dependent claims 26-28, and 31. For brevity, Applicant defers (but reserves the right to present) further remarks, such as concerning any dependent claims, which are believed separately patentable.

2.   Claims 36-42 were rejected under 35 U.S.C. § 102(e) for anticipation by Ukrainczyk et al. (U.S. Publication No. 2002/0022956A1). Applicant respectfully traverses.

Applicant cannot find in the cited portions of the commonly-owned Ukrainczyk reference any disclosure of, among other things, using groups that include all of an Activities group, a Symptoms group, a Products group, and an Objects group, as recited or incorporated in these claims. In alleging such a correspondence, the Office Action refers to the following portion of Ukrainczyk:

> This is extended to allow the use of a different (possible overlapping) sets of XML regions for each perspective. Its easy to see that if a document were classified against a Symptoms perspective, a Causes perspective, and a Remedies Perspective, the document would classify well if it were classified against the Symptoms perspective based on the text of the symptoms region of the document, if it were classified against the Causes perspective based on the text of the causes region of the document, and if it were classified against the Remedies perspective based on the text of the remedies region of the document. The extension is straightforward: there is an XMLRegions parameter and a UseWholeDoc parameter for each perspective. Consider the following example.

(Ukrainczyk ¶ 84.) While the cited portions or Ukraincyzk apparently do mention using a "Symptoms" perspective in combination with a "Causes" perspective and a "Remedies" perspective, Applicant can find no disclosure of using a "Symptoms" group in combination with an Activities group, a Products group, and an Objects group, as recited or incorporated in these claims.

Applicant also cannot find in the cited portions of the commonly-owned Ukrainczyk

reference any disclosure of, among other things, presenting to the user, if the at least one feature

in the user query language substantially matches the at least one concept feature associated with

a concept, at least one indication of at least one related concept to the at least one matched

concept, as recited or incorporated in these claims. In alleging such a correspondence, the Office

Action refers to the following portion of Ukrainczyk:

> At this point, Set-Up 210 is complete. Processing next flows to step 220 and
> Counting Features commences. It is important to note that step 220 is optional. In
> other words, if no training data is available or desired, this step may be skipped.
> When counting features 220 executes, tags 60 are read into the system, identifying
> the concepts associated with each document in the training set. Training
> documents are then processed by feature finder 10 (FIG. 1), which creates a
> feature vector 100. Referring to FIG. 7, it is shown that feature finder 10 performs
> two tasks: convert a document into a feature vector 100, wherein each feature in
> the document is represented with a count of the number of times it occurred in the
> document; and to introduce BE-tags into the XML form of the document stored in
> the database. Once a feature has been recognized, it is entered into feature vector
> 100. As shown in FIG. 7, feature vector 100 represents the relevant topic-spotting
> features within a segment of text. Feature vector 100 consists of a plurality of
> feature elements 710. Each feature element 710 contains a termID (which may be
> a Symbol ID Sequence 440 for single-word features, or a feature ID 510 for
> multiple-word features), and a frequency count. To find features within text
> represented as a Symbol ID Sequence 440, a variably-sized sliding window is
> moved across the sequence. The subsequence of symbol IDs visible in the
> window is looked up in feature table 80, where feature sequences are stored. The
> first time a feature is encountered, it is entered into feature vector 100, with a
> count of 1. Each subsequent time the feature is encountered, its count in feature
> vector 100 is incremented. While it is not shown in FIG.7, feature elements 710 of
> feature vector 100 include attributes (case, morphology, etc.) corresponding to the
> attributes stored in feature table 80. If a feature is matched that overlaps another
> feature, a feature element 710 for the feature is added to the feature vector 100
> and the Overlap attribute of that feature element 710 is set. If the feature is not
> case sensitive (i.e., exception string 530 is NULL), and the subsequence of
> symbol IDs equals the text visible in the window, a feature element 710 for the
> feature is added to the feature vector 100. If the feature is case sensitive, the
> present invention compares the non-normalized form stored in feature table 80
> with the string spanned by the symbol ID subsequence in the text. This
> comparison is case sensitive when scanning documents and case insensitive when
> scanning queries. In essence, a user inputting a query at a terminal is given the
> benefit of the doubt whether they intended to capitalize a word in the query, but
> failed to do so. If this comparison succeeds, again, the feature is found, and a

feature element 710 for the feature (identified by feature ID 510) is added to the feature vector 100 and the Case attribute of that feature element 710 is set. The same two-comparison mechanism is used to check for morphological matches when a feature's Stemming attribute is set. When such a match is found, the Stemming attribute of its feature element 710 is set. Stop words, punctuation signs, XML tags, etc. are not passed to feature vector 100. Finally, matches to single-word, case sensitive features are a special case. In this case there is not enough information to tell whether the text is trying to actually convey the feature, or the non-normalized form. For example, a text segment containing the word "Apple" may refer to the company Apple or the text may be "Apple farmers . . . " Therefore, for matches to single-word, exactMatch features, both the FID 510 and the symbol ID 440 are inserted into the feature vectors 100. This does not result in an over count of words that occur at the beginning of a sentence, because the present invention only outputs two IDs for a word when it determines that text in its non-normalized form has a different meaning from the identical word in its normalized form. As the input text is copied to the database, XML tags are inserted around the text recognized by the feature finder.

(Ukrainczyk ¶ 67.) Applicant has reviewed this rather lengthy citation from Ukrainczyk, but Applicant cannot find in it any disclosure of presenting to the user, if the at least one feature in the user query language substantially matches the at least one concept feature associated with a concept, at least one indication of at least one related concept to the at least one matched concept.

In sum, because the cited portions of Ukrainczyk apparently do not disclose all elements recited or incorporated in claims 36-42, Applicant respectfully requests withdrawal of this basis of rejection of these claims. For brevity, Applicant defers (but reserves the right to present) further remarks, such as concerning any dependent claims, which are believed separately patentable.

§103 Rejection of the Claims

Claims 8-10 and 29-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Agrawal et al. (U.S. Patent No. 6,233,575B1) in view of Aggarwal et al. (U.S. Publication No. 2002/0138481A1).

Applicant respectfully traverses on the grounds that no *prima facie* case of obviousness presently exists with respect to these claims because Applicant cannot find in the cited portions

of Agrawal '575 and/or Aggarwal '481 all elements incorporated in these claims from their

respective independent claims 1 and 25, for the reasons discussed above with respect to the § 102

rejections of such independent claims 1 and 25. The Office Action cites the following portions

of the additional Aggarwal '481 reference in making the present § 103 rejection:

> By way of explanation, nominal attributes are those that take one value out of a
> fixed set of possible values, for example, sedan, convertible, hatchback etc. for
> the "body style" attribute for cars. Numeric attributes are those that have a
> numeric value, for example, miles per gallon for the "fuel consumption" attribute
> for cars. Similarity searching gives the shopper an opportunity to explore various
> products that are similar or most like the products that she has in mind. This type
> of searching is found to be especially useful when the shopper has a certain notion
> of for what she is looking, but does not know the exact product specification, or
> wishes to browse through similar products before making a final selection.
>
> It may be considered that the shopper's product searching conveys an "implied
> concept", which the system attempt to learn. The system learns the concept
> implied by the shopper's current requirements rather than recommending products
> based on the shopper's previous actions or those of other shoppers who, for
> example, in the past bought products similar to those being searched by the
> current shopper. Similarity searching is performed by computing a similarity (or
> dissimilarity) score for each object (product) in the product database from the user
> query object using a similarity function. The objects in the database are ranked
> according to their similarity scores and the top few matches are shown to the
> shopper. One such similarity measure for numeric values is the Mahalanobis
> distance, d(x,q), defined as:
>
> S(f.sub.j)=d(x,q)=(x-q).sup.TM(x-q)=.SIGMA..sub.j.SIGMA..sub.km.sub.jk(x.s-
> ub.j-q.sub.j).(x.sub.k-q.sub.k)

(Aggarwal '481 ¶¶ 40-41.) Thus, Aggarwal '481 apparently merely matches a user query to one

or more deemed products of interest by computing a similarity score. Although documents

concerning such products of interest are apparently presented to an end-user, Applicant can find

nothing in Aggarwal '481 that discloses, teaches, or suggests presenting at least one matched

"concept" together with at least one "related concept" determined from a predefined

correspondence. As Applicant pointed out in a previous Response, the claimed "concepts" in the

knowledge map are distinct from "documents", which are tagged to concepts in the knowledge

map, and which are therefore separate from the concepts in the knowledge map. Again, Applicant's documents do not constitute the concepts themselves.

By contrast to Aggarwal '481, these present claims are directed toward matching a user query to at least one concept node, and presenting at least one indication of the at least one matched concept and "at least one related concept" to the at least one matched concept, where the at least one related concept is determined from a predefined correspondence relationship between the at least one matched concept and the at least one related concept.

In sum, because all elements of these present claims are apparently not disclosed in the cited portions of the cited references, Applicant respectfully submits that no *prima facie* case of obviousness presently exists with respect to such claims. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of these claims.

Reservation of the Right to Swear Behind

Applicant reserves the right to swear behind any references which are cited in a rejection under 35 U.S.C. 102(a), 102(e), 103/102(a), and 103/102(e), such as provided under 37 C.F.R. § 1.131 or otherwise. Statements distinguishing the claimed subject matter over the cited documents are not to be interpreted as admissions that the documents used as references are prior art.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE
Serial Number: 10/047,446
Filing Date: January 14, 2002
Title: EFFICIENT AND COST-EFFECTIVE CONTENT PROVIDER FOR CUSTOMER RELATIONSHIP MANAGEMENT (CRM)
           OR OTHER APPLICATIONS

Page 17
Dkt: 1546.015US1

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 373-6951 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.
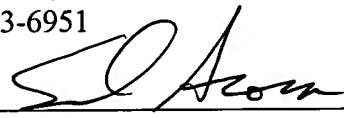
Respectfully submitted,

MAX COPPERMAN ET AL.

By their Representatives,

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Date _Janvary 27, 2006_   By _____
                              Suneel Arora
                              Reg. No. 42,267

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this **27** day of January, 2006.

_____   _____
Name   Signature